Remarks

1. The rejection of claims 1-3, 5, 15, 16, 18-21 and 28 under 35 U.S.C. 103(a).

In the Office Action, page 3, point 3, the Examiner rejected claims 1-3, 5, 15, 16, 18-21 and 28 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (US Patent No5,594,463A) in view of Shen et al. (U.S. Patent No. 6,414,6661 B1). Reconsideration is requested.

As to independent claims 1, 15 and 28, Sakomoto does not disclose i.a. the following steps of claim 1:
- calculating the OLED pixel lifetime and light output
- compensating at least partly for aging by changing a second operating parameter of the OLED pixel based on the determination of the environmental parameter and the first operational parameter in a way that the OLED pixel lifetime and light output are optimized.

The non-disclosure of the first step seems to be accepted in the Office Action, but there seems to be some uncertainty, at least partly, about the non-disclosure of the second step. However, the compensation disclosed in Sakomoto consists in estimating and setting the driving voltage Vd at the minimum limit necessary for driving the EL element (col. 7: 43-46 and 53-57), keeping, at the same time, this driving voltage Vd within the limits of a maximum value. In this way "energy consumption can be reduced" (col. 2: 24-27). Sakomoto thus does not disclose a compensation for aging and there is no optimizing for lifetime and light output either. Such an optimizing is actually impossible in Sakamoto because the lifetime is not measured or calculated. Sakamoto thus does not disclose the first step and also not the second step.

Shen et al. discloses a method that compensates long-term variations in the light-emitting efficiency of individual OLED's in an OLED display. The method comprises calculating and predicting the decay in light output efficiency of each pixel. This calculation can be based on the accumulated current that has been passed through the device or on a difference in voltage across the pixel at two instants (see Abstract).

The Examiner in the Office Action seems to suggest that calculating the decay in light output efficiency is equivalent to calculating lifetime. Applicants respectfully disagree. The decay in light output efficiency is, according to Shen, proportional to the total number of charges that pass through the light emitting device (col. 5: 13-22) and is defined by the ratio of luminance over current (col.5: 4-12). However, lifetime is the time that the life of someone or something continues and in the present case, by lifetime is meant the number of hours that the OLED can work. According to the present invention, the lifetime H of an OLED is also dependent on the temperature condition T (see formula on line 19 of page 24 of the specification) and this lifetime is calculated accordingly. As a first conclusion, it can be said that Shen does not disclose the calculation of lifetime.

Further, Shen derives from the calculation a correction factor in order to produce "a desired brightness level" (col. 5: 39-43). There is thus no optimizing against two parameters: lifetime and light output. Such an optimizing is also impossible in Shen, because Shen does not calculate lifetime.

The present case can thus not be compared to the situation of a "discovery of an optimum value of a result effective variable", as indicated on page 4 of the Office Action.

Generally, it can therefore be concluded that the steps of claim 1, which are not disclosed in Sakamoto, are also not disclosed in Shen et al. either.

To establish obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. As the prior art does not disclose all the steps of claim 1, claim 1 is both novel and non-obvious.

Both other independent claims 15 and 28 include also the feature relating to the calculation of the pixel lifetime and light output and to the aging compensation under the condition that pixel lifetime and light output are optimized. Claims 15 and 28 are thus also both novel and non-obvious.

Claims 2, 3, 5, 16 and 18-21 are claims depending on allowable independent claims 1 and 15, respectively. These claims are thus also submitted to be allowable.

2. The rejection of claims 4, 7 and 17, the rejection of claims 6 and 8, the rejection of claims 9, 10, 22 and 23, the rejection of claims 11-13, 24, 25 and 27 and the rejection of claims 14 and 26, all under 35 U.S.C. 103(a).

The following rejections were also contained in the Office Action:

- on page 6, point 4, the rejection of claims 4, 7 and 17 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto and Shen as applied to claims 1-3, 5, 15, 16, 18-21 and 28 above, and further in view of Numao (JP No. 2002278514A);
- on page 7, point 5, the rejection of claims 6 and 8 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto and Shen as applied to claims 1-3, 5, 15, 16, 18-21 and 28 above, and further in view of Ochi et al. (US No. 6,376,994B1);
- on page 8, point 6, the rejection of claims 9, 10, 22 and 23 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto and Shen as applied to claims 1-3, 5, 15, 16, 18-21 and 28 above, and further in view of Suzuki (US No. 6,369,786B1);
- on page 9, point 7, the rejection of claims 11-13, 24, 25 and 27 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto and Shen as applied to claims 1-3, 5, 15, 16, 18-21 and 28 above, and further in view of Mazurek et al. (US No. 5,805,117A); and
- on page 10, point 8, the rejection of claims 14 and 26 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto and Shen as applied to claims 1-3, 5, 15, 16, 18-21 and 28 above, and further in view of Hanaki et al. (US No. 6,337,542B1).

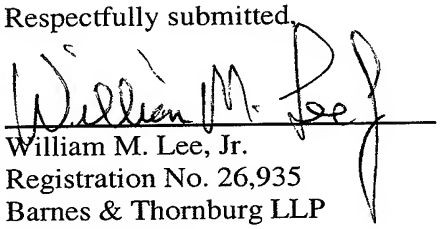
Reconsideration is requested.

All rejected claims are claims dependent on allowable independent claim 1 and 15, respectively. As the independent claims are submitted to be allowable, the dependent claims are thus also allowable.

3. Given the above, it is submitted that the application is now in condition for allowance, and the Examiner's further and favorable reconsideration in that regard is urged.

April 3, 2007

Respectfully submitted,



William M. Lee, Jr.
Registration No. 26,935
Barnes & Thornburg LLP
P.O. Box 2786
Chicago, Illinois 60690-2786
(312) 214-4800
(312) 759-5646 (fax)